

Action.

Claim Rejections

The Applicant has cancelled claims 10-21 and has submitted new claims 22-36. All claims subject to the Office Action's objections and rejections have been canceled. Therefore, all of the asserted objections and rejections have been traversed and are now moot.

CONCLUSION

The Applicant respectfully requests the Examiner to make the above amendments, enter the submitted claims, withdraw all pending rejections, and allow the patent to issue. Any questions regarding this response should be directed to the under undersigned Applicant.

Respectfully submitted,

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Date: July 2, 2006



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: § § Examiner: Kim, Tae Jun
Neary, David L. § §
Serial No.: 10/743,505 § § Art Unit: 3746
Filing Date: December 22, 2003 § §
For: Power Cogeneration System and § § Office Action Mailing Date:
Apparatus Means For Improved § § February 3, 2006
High Thermal Efficiencies and
Ultra-Low Emissions

Commissioner for Patents
P.O. Box 1450 Alexandria, VA 22313-1450

CERTIFICATE OF MAILING

I hereby certify that on July 3, 2006 the foregoing is being deposited with the United States Postal Service in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 in accordance with 37 C.F.R. § 1.10 as "Express Mail Post Office to Addressee" with Express Mailing Label No. ED 625085666 US., the envelope additional having an enclosed self-addressed and postage-paid return postcard enclosed.

David L. Neary

REMARKS

The applicant respectfully calls the Examiner's attention to the applicant's following comments:

1. The applicant's invention was never intended to include design details pertaining to manufactured apparatus devices contained within the submitted partially-open systems containing oxy-fuel combustion assemblies, such as combustion chambers referenced to within the submitted specifications and claims. The applicant has therefore deleted text references within the specifications that implied or suggested possible internal primary combustion zone design concepts that appeared to be acceptable. As originally presented, the specifications continue to rely on over a half century of proven thermodynamic and heat & mass transfer principles and theories, authors of publications having hands-on practical experience or knowledge of combustion equipment systems, combined with months of extensive proprietary computer-generated process simulations that led to the submitted applications inclusion of data contained within the 'Tables' of submitted example system performance data. The employed reference proprietary computer-generated process simulation program has been widely employed by major consulting firms serving the major Chemical, Oil & Gas companies for many years.

2. The applicant acknowledges a truly regretful sentence structure phraseology in the non-entered specification that suggested that the speed at which radiant heat is emitted and transferred within a combustion chamber, was instead directed to the speed in which chemical reactions can occur. The word "accelerated" was intended to represent the oxy-fuel

combustion heat transfer between like predominate CO₂ and H₂O of high differential temperatures, as compared to the rate of heat transfer between the predominate Nitrogen molecular gases within a convention Air/Fuel combustion chamber.

3. One experienced in the art, will recognize that the elements of Time, Temperature, and Turbulence are essential elements for efficient conventional Air/Fuel combustion burning processes. With perhaps 99.999% of all gaseous and liquid hydrocarbon fuel combustion applications being carried out as Air/Fuel combustion applications for many decades, essentially all published scientific research and theories have been focused Air/Fuel combustion to reduce exhaust emissions and improve fuel combustion efficiencies.

It must be recognized that published material pertaining to Air/Fuel combustion reactions, and mechanisms thereof, are highly or predominantly influenced by the highly predominant presence of Nitrogen gas within the prevailing applications employing Air/Fuel type combustion within current art applications and equipment systems. Needless to say, Nitrogen gases of higher temperature can only effect heat transfer to lower temperature Nitrogen gases through convective heat transfer (molecular collusion means). The higher the differential temperature between colliding gases , and the greater of the gases turbulence (enhancing the frequency of molecular collusions, the quicker that an "average" or "resultant" or "measurable desired combustion chamber temperature can be achieved. Therefore, one must differentiate between how combustion products heat is transferred within a Air/Fuel combustion chamber, versa combustion products heat transfer within an Oxy-Fuel combustion chamber containing essentially no Nitrogen gases.

4. Wherein it appears that the word "equilibrium" temperature may be considered as

pertaining to a completed theoretical chemical reaction state temperature, rather than a measurable temperature with a combustion chamber, the applicant has deleted the word "equilibrium" throughout the application, replacing it with the word " resultant" or "average" temperature to denote a measurable and controlled temperature that is to be maintained within a particular location within the application's operating system.

5. As a registered professional engineer in the State of Texas, having over 40 years experience in designing, operating, and marketing power equipment systems, the applicant has endeavored (to the best of his abilities), and without presenting any new matter (of meaningful substance) to better describe the amended specifications and claims in order to overcome the Examiner's objections. This effort has been made while only employing the existing valid technical matter and explanations already appearing throughout the original 2003 specification.